

Installing and Setting Up Natural on OpenVMS

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UAF and SYSGEN Parameters and Images Required

Parameters

The following UAF (User Authorization File) and SYSGEN parameters should have at least the following values for each Natural user:

Parameter	Function	Minimum Value	Utility
Fillm	File limit	100	UAF
TQElm	Timer queue elements	10	UAF
Enqlm	Lock queue entry limit	1000	UAF
Bytlm	Byte limit	30000	UAF
Maxbuf	Maximum size of buffered I/O transfer	4096	SYSGEN
JTquota	Job table quota	2048	UAF
Pgflquo	Page file quota	50000	UAF
Procsectnt	Process section count	70	SYSGEN

Images

If any of the above-mentioned SYSGEN parameter values are too small, the command procedure *NODENAME_*NATGEN.COM is generated, and it assigns the proper values to the parameters. If your system does not specify a nodename, *NODENAME* is set to "NONAME".

Note:

After *NODENAME_*NATGEN.COM is executed, the system must be rebooted to activate the new SYSGEN parameter values.

To install the recommended Natural images, the following system resources are required:

Images For	GBLPAGES	GBLSECTIONS
Natural Nucleus	10000	50
Natural Buffer Pool	8000	1

Process Privilege Required

The following process privilege is required for the user before Natural can be used:

Privilege	Description	Natural Use
TMPMBX	May create temporary mailbox	Create subprocesses

To install the Natural images and to create the Natural buffer pool, the following system privileges are required: **CMKRNL, SYSNAM, SYSPRV, PRMGBL, SYSGBL, BYPASS**.

Installing Natural in a Cluster Environment

In a cluster environment, you must install Natural on each node on which it is to be used.

Initial Installation

Depending on the Sagbase installation, the initial Natural installation within a cluster will choose either the common or the specific root directory. Each node must first be prepared by installing Sagbase. The installation procedure checks for an existing Natural installation in the cluster.

Subsequent Installations

Subsequent installations consist of the following steps:

- Checking whether or not system parameters have correct values.
- Modifying NATBPENV_*nodename*.COM according to the parameters specified.
- Modifying the startup component database if STARTUP_NAT5.COM was found in SYS\$STARTUP.
- Executing the command procedure STARTUP_NAT5.COM.

Multiple Versions of Natural

You can use more than one Natural version on your system. Image names contain the current version number, and the following command procedure is downward compatible:

- LOGIN.COM

Activating Another Natural Version

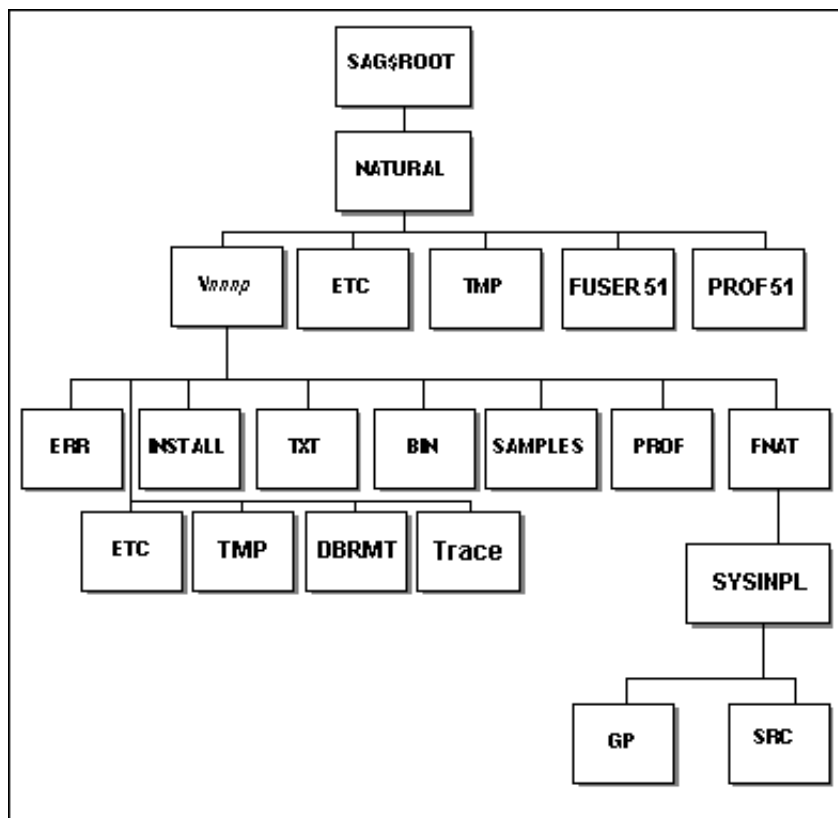
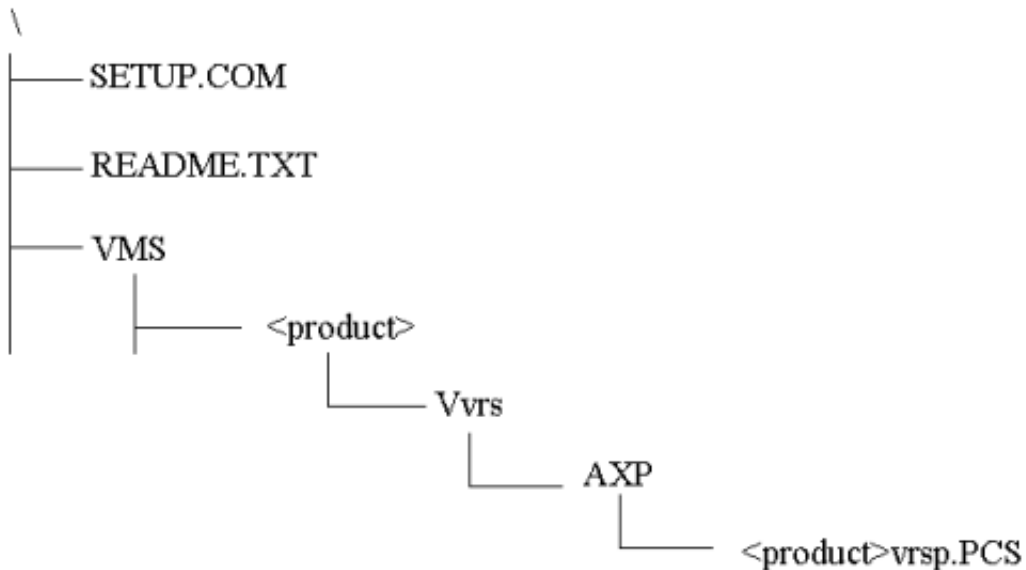
Note:

If a specific user wants to use another version in his/her job environment, the UAF parameter JTQUOTA must be set to 2048.

If you have already installed Natural system-wide by executing STARTUP_NAT5.COM with parameter P1 set to the value STARTUP or to no value, you can now install another version of Natural on a job environment by executing STARTUP_NAT5.COM with parameter P1 set to a value of a version of Natural already installed, for example 511p.

Recommended Directory Structure

Software AG recommends the following directory structure for Natural:



The Natural logicals are to be found in a version-specific name table called `Natural_C$Vversionnumber_LOGICAL_NAMES`.

Overview of Installation Procedure

The installation program PCSI automatically performs the following steps when used to install Natural:

- Checks which OpenVMS version is running.
- Temporarily sets the privileges (BYPASS, CMKRNL, SYSNAM).
- Checks whether Sagbase is installed.
- Modifies DBA account if required.
- Checks whether system parameters have correct values, and if they do not, a procedure is generated that assigns the correct values.
- Registers product SAGBASE to PCSI if required.
- Calculates and verifies the disk space needed for installation on both the work-directory device and the installation device.
- Creates Natural directories if necessary.
- Moves all files and images to the appropriate directories.
- Sets protections for files and directories.
- Asks whether you want to copy STARTUP_NAT5.COM into the SAG\$ROOT:[NATURAL] directory or the SYS\$STARTUP directory.

Note: If you want Natural automatically loaded and activated at every booting, specify STARTUP_NAT5.COM to be moved to SYS\$STARTUP and generate an entry in the system startup database using SYSMAN. When rebooting, STARTUP_NAT5.COM will then be invoked with the parameters P1:STARTUP and P2:BP. For more information, see *Changing a Process Environment with STARTUP_NAT5.COM*.

- Asks whether you want to modify the system startup database if the directory SYS\$STARTUP was selected to contain STARTUP_NAT5.COM.
- Creates the patch level file in the version subdirectory of Natural directory (in this version, "V511p").

Note: Patch level files are for internal use and should not be modified or deleted. They are used for other installations when determining what patch level a product has that is installed on your system.

- Inserts the node specific buffer pool section into the NATURAL.INI file.
- Asks for the location of the buffer pool section file.
- Creates the buffer pool start procedure NATBPENV_<nodename>.COM

Note: For more information, see *Activating the Natural Buffer Pool*.

- Executes STARTUP_NAT5.COM and installs the new Natural version.
- Enters the new Natural version number at the end of the file VER5.DAT in the Natural directory.
- Verifies the installation.

Installation Procedure

Before you start installing Natural, perform the steps necessary for Installing and Setting up Software AG products for OpenVMS.

You started the installation using the command procedure `SETUP.COM` located on CD to install Natural in the OpenVMS environment as described in the `README.TXT` file on the CD.

After copying the Natural PSC file from the CD to the `sag$root:[cdinst]` directory, the Polycenter Software Installation utility (PCSI) was started. During the installation procedure, a number of general information messages are displayed. Read all messages carefully and follow any advice they may provide.

The following messages are displayed during the installation process:

The following product has been selected:

SAG AXPVMS NAT_vrsp Vv.rs-PLp Layered Product [Installed]

Do you want to continue? [YES]

Answer: yes

The installation procedure checks if the product SAGBASE (GBA) has already been installed and registered with the PCSI utility. If GBA has been installed but not yet registered, you will be asked to do so. Register by following the instructions on the screen.

If the SAGBASE software has not been found on your system the installation aborts.

Do you want the defaults for all options? [YES]

Answer: no

Do you want to copy the examples?

Answer: yes

Print `READ_ME_FIRST.TXT` (SYS\$PRINT)?

Answer is optional (yes or no)

Move `STARTUP_NATv.COM` to `SYS$STARTUP`?

Press RETURN to accept the default: the procedure is moved to the `SYS$STARTUP` directory

Enter NO: the procedure is moved to the directory `SAG$ROOT:[NATURAL]`.

Software AG recommends running the `STARTUP_NATv.COM` procedure during system startup.

If you used the default value, the following prompt is displayed:

Enable `STARTUP_NATv.COM` using `SYSMAN`? [YES]:

Press RETURN to generate entries in the system startup database in order to execute the procedure automatically during system startup.

An entry of the following form will be generated:

Phase	Mode	File
LPBETA	DIRECT	STARTUP_NATv.COM

Are you satisfied with these options ?

Answer is optional (yes or no).

The procedure now inserts the node-specific buffer pool section into the `NATURAL.INI` file.

The information about the global section file for the Natural buffer pool file is displayed. You have the choice to place the section file into the NATETC directory or to another location.

Place global section file into NATETC ?

Answer is optional (yes or no)

The procedure continues by executing STARTUP_NATv.COM to define the logical names required by Natural.

After a successful installation, the PCSI utility displays the message:

The following product has been installed:

SAG AXPVMS NAT_vrsp Vv.rs-PLp Layered Product

Changing a Process Environment with STARTUP_NAT5.COM

When you have installed Natural with VMSINSTAL as described above, the command procedure STARTUP_NAT5.COM has been executed for the environment. However, if you want to change a user-specific environment, you can use STARTUP_NAT5.COM again, but you specify different parameters. These parameters are:

- P1 - Natural version, for example 5110; if the parameter value is empty or "STARTUP", the content of the first line of file SAG\$ROOT:[Natural]VER5.DAT will be used to determine the Natural version; in this case, change your VER5.DAT accordingly.
- P2 - BP or NOBP, that is, whether you want to activate the Natural buffer pool or not.
- P3 - INST or nothing, that is, whether you want to install the Natural Images or not.

Note:

If you wish to install the Natural images, you must have the privileges SETPRV, CMKRNL, SYSNAM or SYSPRV.

Enter the following command to start STARTUP_NAT5.COM:

\$ @STARTUP_NAT5.COM P1 P2 P3

Activating the Natural Buffer Pool

To activate the Natural buffer pool, you execute the command procedure `STARTUP_NAT5.COM` with parameter `P2` = "BP" as in the following example:

```
$ @STARTUP_NAT5.COM STARTUP BP
```

Completing the Installation

To complete your Natural installation, go to the following directory:

```
$ set def sag$root:[Natural.v511p.install]
```

In this directory, execute the following procedure:

```
$ @SAGINST_NAT.COM
```

The "Installation Procedure" screen appears. It offers two functions:

- 1 - Load Natural modules
- 2 - Check logfile of inpl procedure

To complete the installation, first execute Function 1, then execute Function 2. If you want to use the Natural command processor, execute Functions 3 and 4.

- 3 - Specify Adabas DBID for SYSNCP
- 4 - Create SYSNCP file

Your installation is now complete. To invoke Natural, enter "NAT51".

Remote Debugger

If you want to use the remote debugger, copy `sag$root:[Natural.v511p.dbrmt.i386]nrd.exe` to your Windows computer.

Transferring the Remote Debugger

To transfer the Natural Remote Debugger from your OpenVMS environment to a Windows PC, perform the following steps:

1. Open the command prompt on your Windows PC.
2. Run Windows ftp service:

```
ftp NODE
```

where NODE is the Open VMS machine where your Natural installation is located on.

3. After you have logged on successfully, apply the ftp 'binary' command to switch to binary transfer mode.
4. Use the ftp 'SET DEFAULT' command to go to the OpenVMS directory where the Remote Debugger installation is available.

```
(NATDIR:[ 'F$TRNLNM ("NATVERS") ' .DBRMT ])
```

5. Apply the ftp 'get NRD_I386.EXE' command to have the Remote Debugger installation transferred to your PC. NRD_I386.EXE is a self-extracting ZIP file.
6. In Windows, run NRD_I386.EXE to unzip all files. The files will be put into the I386 directory.
7. Go to directory I386 and install the Remote Debugger by running "setup.exe" from the command prompt of your Windows machine.

Setting Up the Entire System Server Interface

The Entire System Server Interface (ESX) is required if the product Entire System Server (ESY) is to be used. The Entire System Server Interface is part of Natural Version 5.1.1 and no extra installation is needed.

Additionally, Natural Version 5.1.1 provides the libraries SYSNPE and SYSNPR.

SYSNPE is the Entire System Server online tutorial as starting help for Entire System Server users. For more information about Entire System Server, see Entire System Server Overview.

The library SYSNPR contains the utility CHANGEDB which is used to change the database ID of the Entire System Server DDMs.

This section covers the following topics:

- Prerequisites
- Activation

Prerequisites

The Entire System Server Interface provides access to Entire System Server on OS/390, VSE/ESA and BS2000/OSD via Entire Net-Work. For full support of the Entire System Server Interface, WCP 581 or above is required on the mainframe platforms.

Activation

The Entire System Server Interface is not active if you use the standard Natural configuration settings. The value of the Entire System Server Interface database (Natural profile parameter ESXDB) is set to 0 by default. To use the Entire System Server Interface you need to run the Natural Configuration Utility and must set the value of the parameter ESXDB to 148. The parameter can be found in the Natural Configuration Utility > Natural Parameter Files > Product Configuration > Entire System Server.

ESXDB specifies the database ID used for the DDMs of Entire System Server. This DBID does not specify the target DBID of Entire System Server requests but tells Natural which DBID is used for the catalogued Entire System Server DDMs. The effective Entire System Server target DBID will be specified with the NODE field which is part of all Entire System Server DDMs.

Please change the value of ESXDB to 148 to run Natural with Entire System Server Interface support. All Entire System Server DDMs are catalogued with DBID 148.

After starting Natural again, you may access Entire System Server nodes running on the mainframes via Entire Net-Work.

Currently, the customization of Entire System Server Interface supports the modification of the Entire System Server DDMs only.

How to use a different DBID for the Entire System Server DDMs:

Library SYSNPR contains the CHANGEDB program which is used to modify the database ID of all Entire System Server DDMs. You will find all Entire System Server DDMs in the library SYSNPE.

The database ID entered as a new DBID value in the CHANGEDB program must also be specified as the value of the Entire System Server Interface database parameter (ESXDB) in the Natural Configuration Utility.